

Junos Space 1.0 Release Notes

18 December 2009
Release 1.0

These release notes accompany the Juniper Networks Junos Space Release 1.0. They describe the features of the Junos Space product and list the known problems.

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New Features

Junos Space is a state-of-the-art network and application management tool that presents an innovative user interface through which you can provision Layer 2 Ethernet services, perform element management, and manage the fabric itself.

The Junos Space product is available as a physical appliance or as a software-only virtual appliance that can be loaded onto a server running VMware software. Physical and virtual appliances can be clustered in a fabric for greater throughput and high availability.

The Junos Space product consists of the Network Application Platform and the Ethernet Activator application. The Network Application Platform manages network devices and users in addition to managing the appliance fabric. The Ethernet Activator application provides features for provisioning Layer 2 point-to-point Ethernet services and multipoint Ethernet services.

The following sections describe the features of the Junos Space product:

- Ethernet Activator Features on page 2
- Network Application Platform features on page 4
- User Interface Features on page 5

Ethernet Activator Features

The Junos Space Ethernet Activator application presents the following new features:

- **Point-to-point Ethernet services support**—Enables the design, provisioning, and management of point-to-point Ethernet services. These services use LDP switching in the network core. A unique virtual circuit provides a secure network connection enabling two customer sites to communicate in a virtual private network (VPN).
- **Multipoint Ethernet services support**—Enables the design, provisioning, and management of multipoint Ethernet services, implemented as virtual private LAN services (VPLS). These services use BGP switching in the network core. Each customer site connected by the service communicates with all other customer sites in the VPN. Customer sites can be added with ease. The Junos software in the devices uses the route targets and route distinguishers provided by the Junos Space software for autodiscovery to establish secure connectivity among provider-edge routers quickly and efficiently.
- **Port, 802.1Q, and Q-in-Q user-to-network interfaces support**—Point-to-point services and multipoint services connect with customer sites through full port interfaces, 802.1Q interfaces, or Q-in-Q interfaces. Services that connect full port interfaces transport all customer traffic on the port to other customer sites in the VPN. Services that connect 802.1Q interfaces transport a single VLAN among all customer sites in the VPN. Services that connect Q-in-Q interfaces transport either all customer traffic on the interface, or a specified range of VLANs.
- **Discovery and assignment of provider-edge devices and interfaces**—These prestaging activities prepare the devices for provisioning. Predefined rules identify all provider-edge devices already under Junos Space management, identify all

device interfaces suitable for UNI assignment, and assign to each interface a VLAN profile appropriate to the encapsulation type. With just a few mouse clicks you can assign all discovered devices and interfaces for use by the provisioning software. The software also enables you to manage exceptions to devices and interfaces during and after the initial discovery process.

- **Service design support**—The Ethernet Activator software separates the design of services from service provisioning, enabling these functions to be performed by operators with different levels of privilege. You can restrict service design to users with a higher level of privilege. This feature enables the service designer to create a service definition that defines the attributes of a service that will be consistent across all service instances based on that definition.

Attributes that can be set in the service definition include interface type (port, 802.1Q, or Q-in-Q), traffic type (all traffic, single VLAN, range of VLANs), encapsulation type, connectivity MTU, UNI MTU, and rate-limiting bandwidth. For point-to-point service definitions, you can also set the virtual circuit ID (VC ID). For multipoint service definitions, you can set the level of VLAN preservation across the network.

Additionally, the service designer can allow some attributes set in the service definition to be modifiable by the service provisioner. These attributes include VC ID selection (point-to-point Ethernet services only), connectivity MTU, VLAN preservation setting (multipoint Ethernet services only), VLAN ID selection, UNI MTU, and bandwidth.

- **Predefined service definitions**—The Junos Space product contains predefined point-to-point and multipoint service definitions that further simplify the process of designing a service. These service definitions support most use cases, often eliminating the need to create a customized service definition. Each of ten predefined point-to-point service definitions provides a combination of different settings for interface type, traffic type, encapsulation type, and commonly used rate-limiting bandwidths. Each of seven predefined multipoint service definitions provides not only a combination of different settings of interface type, traffic type, encapsulation type, and bandwidth, but also whether VLAN preservation is enforced.
- **Service provisioning support**—The Ethernet Activator application separates the task of provisioning the service from service design, enabling these functions to be performed by operators with different levels of privilege. You can enable less privileged users to perform service provisioning. In this way, you can limit the provisioner's role to no more than specifying the endpoint devices and the UNIs. However, the provisioner can override some attribute values specified in the service definition, if the service definition allows it. These attributes include VC ID selection (point-to-point Ethernet services only), connectivity MTU, VLAN preservation setting (multipoint Ethernet services only), VLAN ID selection, UNI MTU, and bandwidth.
- **Functional audit**—Enables monitoring of the functional status of the service. This feature runs operational commands on the devices and analyzes the command output to check if the service is functionally up or down. You can view detailed results of a failed functional audit to assist in troubleshooting a failed service.
- **Configuration audit**. This feature checks whether the configuration that was initially pushed to the devices as part of service deployment is still present on the device. If not, the feature reports what configuration is missing or inconsistent.

You can use this feature to detect out-of-band changes that have affected the service configuration.

Network Application Platform features

The Network Application Platform presents the following new features:

- **Administration of the fabric, database, software, licences, and applications**—Junos Space Release 1.0 provides support for the following administrative features:
 - Junos Space supports a multiple-node fabric to support high availability and scalability. As you add devices to your network and provision more services, you can add nodes to manage the extra capacity without disrupting current services. As you add nodes to your fabric, the functions of the appliance (load balancer, database, and application logic) are distributed across nodes for availability and scalability. You can also monitor the status of the database, load balancer, and application logic functions running on each node, and identify nodes that are overloaded or down.
 - Database backup and restore features support local and remote backups. The database can be backed up on demand or on a schedule to the Junos Space default directory, or to a remote network host or media. A backup contains all jobs that finished before the backup began.
 - Software management supports uploading and installing upgrades to the Junos Space software or applications.
 - Licence management enables uploading and viewing of licenses.
 - Application management supports the setting of application-specific parameters. For the Ethernet Activator application, you can configure autoresynchronization to update automatically the Junos Space database and make it consistent with the service configuration on managed devices.
 - Troubleshooting capabilities collect data logs for analysis. Data logs can be collected through user interface actions or commands in the CLI. You can customize system status checking, and you can customize which log files are gathered. Junos Space also supports a maintenance mode that an administrator can use to perform system recovery or debugging tasks while all nodes in the fabric are shut down and the Web proxy is running.
 - System health monitoring calculates and displays a measure of the system condition and fabric load.
- **Management of network devices**—Junos Space Release 1.0 provides support for the following device management features:
 - Device discovery searches for devices on your network and brings them under Junos Space management. You use device discovery to discover devices and synchronize device configurations with the Junos Space database. You can use device discovery to discover one or many devices at a time.
 - Device inventory supports viewing information about the hardware and software components of each device that the Junos Space software manages.

You can also view the operational and administration status for the physical interfaces on devices.

- Device resynchronization makes the device configuration in the Junos Space database consistent with the configuration on the device. This feature enables Junos Space to manage out-of-band changes on the device.
- Supported device families include MX Series devices, M Series devices, T Series devices, and J Series devices. These devices can be running any of the following releases and versions of the Junos software:
 - Junos Release 9.3R4
 - Junos Release 9.4R3 or R4
 - Junos Release 9.5R2 or R3
 - Junos Release 9.6R1 or R2
- **Management of users and roles.**—Junos Space software supports authentication and authorization. A Junos Space super administrator or user administrator creates users and assigns roles (permissions) that allow users to access and manage the users, nodes, devices, services, and customers under Junos Space management.
- **Management of jobs**—Job management supports viewing details of scheduled, ongoing or completed jobs. In Junos Space, a job is a unit of work performed on objects such as devices, services, or customers. Typical jobs include device discovery, deploying services, prestaging devices, and performing functional and configuration audits. Junos Space also enables you to cancel a job in case the job has stalled and is preventing other jobs from starting.

User Interface Features

The Junos Space product provides an easy-to-use, task-oriented user interface. It provides the following features:

- **Application chooser**—You can select a Junos Space application either through a top-level application chooser screen that provides thumbnail and carousel views of all applications, or through an always present application switcher in the title bar of the user interface, which allows you to move between applications quickly.
- **Related tasks grouped by workspace**—The Junos Space user interface groups related tasks into workspaces. For example, all tasks related to managing devices are grouped in the Devices workspace, and all tasks related to service provisioning are grouped in the Service Provisioning workspace.
- **Real-time statistics**—The landing page for each workspace provides continually updated charts and graphs that provide critical information about the objects managed in that workspace or shortcuts to filtered views for taking action.
- **Inventory pages**—Each object type in the system has an inventory page in a corresponding workspace that provides thumbnail and table views of the objects in the inventory. For example, the Devices workspace has an inventory for devices; the Service Provisioning workspace has inventory pages for customers, service orders, and services. You can select one object or multiple objects in an

inventory page and perform operations on those objects by selecting tasks from the Actions panel on the inventory page.

Status information can be gleaned from inventory pages by interpreting decorations on thumbnails, tabular information, a “quick look” panel, or a detailed view of the object.

- A Getting Started panel provides a checklist of tasks for commonly performed operations, with links to the user interface pages where the tasks are performed, and links to help for the specific task.
- Online help can be accessed easily from any user interface screen. It is context-sensitive at the workspace level.
- Graphical images for creating a service order or viewing a service provide visual guides to these key operations, presenting status, and intuitive access to the data input panels for primary tasks.

Known Issues

This section describes known issues with Junos Space Release 1.0.

Point-to-Point Service Provisioning Issues

This section describes issues related to point-to-point Ethernet services:

- A service order deployed with vlan-ccc physical encapsulation will assign VLAN IDs from VLAN ID 1 instead of 512. As a workaround:
 1. Manually configure the UNI with vlan-ccc physical encapsulation before prestaging devices.
 2. During service order creation, manually assign VLAN IDs above 512.

VPLS Issues

This section describes known issues with multipoint Ethernet services:

- Modify VPLS Service is not support if you use a customized service definition.
- MAC security settings are not pushed to the device during deployment.
- The MAC learning security setting is always set to false. This value works for almost all VPLS use cases. The MAC statistics security setting is also always set to false.
- Automatic selection of VLAN IDs does not work correctly in service orders that are based on a customized service definition in which Auto pick is selected in the VLAN ID selection field and the Editable in service order check box is unchecked. These selections in the service definition should create a service order in which the VLAN ID is automatically selected and the Auto pick VLAN ID column in the Endpoint Settings table cannot be edited. Instead, the Endpoint Settings table in the service order shows the Autopick VLAN ID checkbox unchecked and it cannot be edited. As a result, automatic selection of the VLAN ID does not take place.

As a workaround, in the service definition, select Auto pick in the VLAN ID field as before, but check the Editable in service order checkbox. The Endpoint Settings table for a service order based on this service definition will show the Autopick VLAN ID checkbox checked, causing the VLAN ID to be automatically selected. However, the Autopick VLAN ID check box will be editable in the service order.

- Adding an endpoint to a VPLS service does not work for a service that specifies a VLAN range. After you add the endpoint in the Modify Service screens, the start and end values for the VLAN range change to 0 and 0. The Junos Space software issues an error when you attempt to save the service order.
- Creating a customized service definition does not perform validation on the traffic type.

Prestaging Issues

This section describes known device prestaging issues.

- The Modify Loopback Address action does not show other loopback addresses configured on the same logical interface in the device. It shows a loopback address configured on a different logical interface, but does not change the device loopback address in Junos Space.
- Searching by IP address in the Assign Roles page and searching by UNI name in the Add Device UNIs page are not supported.
- The Manage Device Roles screen allows you to select the Unassign NPE Role action for a device even when the NPE role assignment job has not finished yet for that device. The following error message is generated when trying to unassign such a device: “unassign when role assignment is still running for that device.” This issue occurs only when the device has many services already deployed.

Other Service Provisioning Issues

This section describes known issues with provisioning services.

- When you enable protect-interface in the service definition, Junos Space should allow selecting the backup interface in the service order and should be able to push configurations to both primary and backup interfaces. Configurations are not pushed to the backup interface. Junos Space allows this backup interface to be selected in a different (new) service order, which it should not allow.
- The Search option does not work in the Prestaging Rules page.
- Contextual launching does not work from the Role Discovery Status chart.
- Automatic rollback of failed service order deployments is not supported.
- The Modify Service action allows you to change the physical interface MTU value on a service provisioned interface. Changing the physical interface MTU will affect other services provisioned on that interface.
- If vlan-ccc physical encapsulation was configured on a UNI before prestaging, Junos Space will not allow you to use VLAN IDs less than 512 even when deploying a point-to-point or VPLS service order with flexible-ethernet-services physical encapsulation on that UNI. As a workaround, to allow the use of VLAN

IDs below 512 for service order deployments with flexible-ethernet-services physical encapsulation:

1. Go to Manage Device Roles -> Manage Device UNIs and delete the UNI.
2. On the device, use the CLI to remove encapsulation vlan-ccc from the UNI configuration.
3. Resynchronize the device.
4. In the Manage Device Roles page, add the UNI.

Administration Issues

This section describes known Administration workspace issues.

- The Eth0 and Eth3 interface IP addresses cannot be changed.
- If the appliance or service is restarted, the ribbon icons are not displayed properly for some time for the existing user interface session.
- There is no confirmation message for the “Q” option in the configuration summary menu, which is displayed at start up.
- Copying logs to a USB drive is not supported on a Junos Space virtual appliance because of VMware ESX server limitations.
- The clock in Junos Space will not display the time correctly if you change the time zone on your client PC. As a workaround, refresh your browser to display the correct time.
- The Junos Space Appliance Settings menu might erroneously display the Expand VM drive size option for a physical appliance. This option should appear only for the virtual appliance.

Job Management Issues

This section describes known issues with the Jobs workspace.

- The Jobs workspace might not display the correct time for "Actual Start Time" and "End Time" of scheduled jobs in the summary view. This issue is seen in the virtual appliance and the resolution is to use the service of an NTP server.
- The “Percent Complete” column in the table view of the Manage Jobs inventory page might not display the “Percentage of job execution completed” for intermediate states.
- On restoring the database, the corresponding Backup Database job state will be displayed as “Failure.”

User Management Issues

This section describes issues related to the Administration workspace.

- Clicking the Active Users History chart takes you to the Number of Users by Assigned Role chart.

- The active user count in the System Health panel could drop after cluster node reboot, although all the users remain connected. In the System Health panel on the system dashboard, the Active Users History chart indicates how many users are currently active in the Junos Space cluster. If a cluster node shuts down, some user sessions could be closed and switch to the remaining running cluster node. However, closing user sessions on the failed node reduces the active user count. The user count could drop to zero if all the user sessions were active on the node which is rebooted. As a workaround, if all users log out and log in again, the active user count will become correct.

Device Management Issues

This section describes known issues with device management.

- After starting discovery, the status graph might remain blank for about 4 or 5 seconds.
- Specific Junos releases and versions that fully support Junos Space 1.0 are limited to the following:
 - Junos Release 9.3R4
 - Junos Release 9.4R3 and R4
 - Junos Release 9.5R2 and R3
 - Junos Release 9.6R1 and R2
- When two large discovery jobs are running at the same time or scheduled to run close to each other, the later job might report some devices failed to be managed with the following message: “Timeout while waiting for device to connect back or to be saved”. These devices are actually added into the system. They are up and their configuration status is “Out of Sync”. As a workaround, after all discovery jobs finish, resynchronize these “Out of Sync” devices.
- If the you specify a non-preferred management IP address of the device in the Discover Targets task, Junos Space does not automatically switch to the preferred IP address when it adds the device to management. We recommend providing the preferred management IP for the device in the Discovery Targets task.
- If a bulk device delete operation takes more than 5 minutes, the delete dialog box in the user interface will persist after job completion. You must cancel the dialog box manually. We recommend you do not perform cancel while the delete operation is in progress. To determine the status of the delete job, check the device count at the bottom of the inventory page.
- Device discovery might fail to add a J Series device if a timeout occurs while Junos Space attempts to establish that the device is reachable, even if the device can be successfully pinged. This timeout can occur because the J Series device is a firewall and might block traffic on port 7, which receives the connection attempt from the Junos Space appliance. As a workaround, perform one of the following actions:
 - Rerun device discovery and uncheck the ping option in the probe. Instead, use only SNMP to discover the device.

- On the device CLI, enter the following command to allow traffic to port 7 in the firewall: “set security zones security-zone trust host-inbound-traffic system-services all”.

CLI Issues

- Junos Space does not support configuring the time zone for an appliance.

Junos Space Technical Publications

Junos Space technical documentation is available as online help and on the Web in HTML format and in pdf format. The Web-based documentation is maintained after the final build of the online help, and should be used where discrepancies exist between the help and the Web-based documentation.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to techpubs-comments@juniper.net, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document name
- Document part number
- Page number
- Software release version

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at <http://www.juniper.net/customers/support/downloads/710059.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool located at <https://tools.juniper.net/SerialNumberEntitlementSearch/>.

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/> .
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, visit us at <http://www.juniper.net/support/requesting-support.html>.

If you are reporting a hardware or software problem, issue the following command from the CLI before contacting support:

```
user@host> request support information | save filename
```

To provide a core file to Juniper Networks for analysis, compress the file with the `gzip` utility, rename the file to include your company name, and copy it to `ftp.juniper.net:pub/incoming`. Then send the filename, along with software version information (the output of the `show version` command) and the configuration, to `support@juniper.net`. For documentation issues, fill out the bug report form located at <https://www.juniper.net/cgi-bin/docbugreport/>.

Revision History

18 December 2009—Revision 2, Junos Space Release 1.0

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